

Attny. Docket No.: Sungwoo-2/N1027-2

REMARKS

1. Claims 1-36 are pending in the application. Of these claims, claims 1, 2, 15, and 21-36 stand withdrawn and claims 3-14, 16 and 20 stand rejected.

This paper cancels claims 3-5 and amends claims 6-9 and 16.

Reconsideration of this application is respectfully requested.

2. The abstract of the disclosure stands objected to because the abstract is too long.

In response, the abstract has been amended herein to comply with MPEP 608.01(b).

Accordingly, withdrawal of this objection is respectfully requested.

3. Claims 4, 6-9, 12, 14, 16 and 20 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite. The examiner asserts that the phrases "key frame data," "reference frame data," "memorizing to encode key frame data," and "the step of storing the coded data to the transmission buffer are performed in repeat" are not clear, but does not state why these phrases are not clear.

Regarding the phrases "key frame data" and "reference frame data," it appears that these phrases lack a proper antecedent basis in claim 6. Accordingly, claim 6 has been amended to provide these phrases with proper antecedents.

Regarding the phrase "memorizing to encode key frame data," it appears that the term in the corresponding Korean priority document corresponding to the term "memorizing" in this phrase, was not given the proper meaning when translated from Korean into English.

Accordingly, all occurrences of the term "memorizing" in the claims have been amended to "remembering." It is believed that the subject matter presented by the phrase "remembering to encode key frame data" is clear in the claims.

The phrase "the step of storing the coded data to the transmission buffer are performed in repeat" was recited in claim 4. The subject matter of claim 4 is now included in currently amended claim 6, which has been rewritten in independent form. In rewriting claim 6, the above phrase has been amended to recite "the steps of coding the A/V data and storing the coded A/V data to the transmission buffer are repeatedly performed." It is believed that the subject matter presented by this phrase, as it appears now in currently amended claim 6, is clear.

In view of the foregoing, withdrawal of this rejection is respectfully urged.

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4. Claims 3-5 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,658,153 to Nakagawa, et al. (Nakagawa), in view of U.S. Patent Application Publication No. 2002/0026645 to Son, et al. (Son).

In response thereto, claim 6 has been rewritten in independent form to include the subject matter originally recited in claims 3 and 4, from which claim 6 depended, and claims 3, 4 and 5 have been cancelled. Accordingly, this rejection is moot.

In view of the foregoing, withdrawal of this rejection is respectfully urged.

5. Claims 6-12, 14, 16, and 20 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa in view of Son as applied to claim 4, and further in view of U.S. Patent No. 6,552,749 to Jones et al. (Jones). This rejection is respectfully traversed.

The examiner correctly states that neither Nakagawa nor Son explicitly teach the subject matter of claims 6-12, 14, 16 and 20. The examiner, therefore, relies on Jones to cure the admitted deficiencies of Nakagawa in view Son.

It is respectfully submitted that Jones does not cure the deficiencies of Nakagawa in view Son and therefore, Nakagawa in view Son and Jones do not teach or suggest the invention of claims 6-12, 14, 16, and 20. More specifically, Jones is directed to a motion estimation technique for moving picture decoding, in which, when an existing moving picture is decoded, motion estimation, color format conversion, and data reduction operate as a separate module, thereby making up for deterioration of performance caused by overlapping of hardware and frequent access to the frame buffer. In the present invention, when an image is received from an image input apparatus, compressed, and transmitted to remote users, a coder and a transmission buffer are generally provided for compression and coding according to each user. In this case, the load and memory usage of a server are increased, and thus performance is deteriorated. As such, the users are classified into two groups, and the coder and the transmission buffer are provided for each user group. Therefore, the load and memory usage of the server are decreased. To this end, image data compressed by one coder should be transmitted to several users. In this case, it is important when the key frame data is generated. The present invention proposes a solution for that (see Claim 16).

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Jones discloses, in column 5, lines 25-40 and FIG. 5, how to perform motion compensation when decoding compressed data. According to Jones, when the compressed data is an I-frame (key frame data for the present invention), it is not necessary to perform the motion compensation. When the compressed data is a B-frame, motion compensation for bidirectional frames is performed. Further, when the compressed data is a P-frame (reference frame data for the present invention), motion compensation for the P-frame, including half pel compensation, is performed, and IDCT difference data is added. Jones further discloses, in column 6, lines 15-35 and FIG. 9, performing motion compensation for horizontal and vertical lines in an interleaved way when decoding the compressed data.

In contrast, claim 6 calls for the step of determining whether the key frame data is needed or not. In addition, the various dependent claims call for: the step of determining whether 's' number of continuous reference frame data are generated or not after the reference frame data is encoded, and the step of determining whether new data should be encoded or not, which includes the sub-steps of determining whether the key frame data should be generated or not, determining whether the finally generated data is transmitted or not, and informing that the frame data on the transmission buffer begins to be used for transmission. Therefore, Jones, including column 5, lines 25-40 and column 6, lines 15-35, does not teach or suggest the claimed subject matter of the present invention. Accordingly, claims 6-12, 14, 16, and 20 are allowable over Nakagawa in view of Son and Jones.

In view of the foregoing, withdrawal of this rejection is respectfully urged.

6. Claim 13 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa in view of Son as applied to claim 4, and further in view of Jones and further in view of U.S. Patent No. 5,574,720 to Lee. This rejection is respectfully traversed.

The examiner essentially states, and the applicant agrees, that Nakagawa in view of Son and Jones fail to explicitly teach the subject matter of claim 13. The examiner, therefore, relies on Lee to cure the admitted deficiencies of Nakagawa in view Son and Jones.

Claim 13 depends from claim 7 which depends from claim 6. Hence claim 13 also includes the subject matter of these claims. As discussed earlier, Nakagawa in view Son and

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Jones fail to teach or suggest the subject matter of claims 6 and 7. It is respectfully submitted that Lee does not cure the deficiencies of Nakagawa in view Son and Jones because Lee does not teach or suggest the subject matter of claims 6 and 7. For at least this reason, Nakagawa in view Son, Jones and Lee do not teach or suggest the invention of claim 13. Accordingly, claim 13 is allowable over Nakagawa in view of Son, Jones and Lee.

In addition, claim 13 recites additional features of the invention which is not taught or suggested by Lee. As discussed earlier, Jones in column 5, lines 25-40 and FIG. 5 discloses how to perform motion compensation in decoding compressed data, i.e., when the compressed data is an I-frame (key frame data for the present invention), motion compensation need not be performed, when the compressed data is a B-frame, motion compensation is performed, and when the compressed data is a P-frame (reference frame data for the present invention), motion compensation for the P-frame, including half pel compensation, is performed, and IDCT difference data is added. However, Jones including the description in column 5, lines 25-40, does not teach or suggest deciding whether the 'n' number of recently generated frame data are transmitted or not.

Lee, in column 8, lines 15-20, discloses checking a network state in order to avoid network congestion in ATM (Asynchronous Transfer Mode) equipment. The subject matter of claim 13 is not directed to the checking of a network state. Claim 13 require that if a network state is checked and determined to be good, then deciding to encode new data if an 'n' number of finally generated frame data are all transmitted to users. In other words, claim 13 of the present invention does not call for checking the network state, but instead, calls for if the network state is good, and if the 'n' number of previously encoded frame data are all transmitted to users, it is more important to decide to encode the new data. Accordingly, claim 13 is allowable over Nakagawa in view of Son, Jones and Lee for this reason also.

In view of the foregoing, withdrawal of this rejection is respectfully urged.

7. Favorable reconsideration of this application is respectfully requested as it is believed that all outstanding issues have been addressed herein and, further, that claims 3-14, 16, and 20 are in condition for allowance. Should there be any questions or matters whose resolution may be advanced by a telephone call, the examiner is cordially invited to contact applicants' undersigned attorney at his number listed below.

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8. The Commissioner is hereby authorized to charge payment of any additional filing fees required under 37 CFR 1.16 and any patent application processing fees under 37 CFR 1.17, which are associated with this communication, or credit any overpayment to Deposit Account No. 50-2061.

Respectfully submitted,



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